

I claim:

1. An improved mouse of the type having surface-tracking for pointing control, said mouse further of the type including a housing, electronic circuitry within said 5 housing and coupled to communication means for communicating control signals from said electronic circuitry to a computer, a plurality of finger deppressible buttons exposed on said housing and interfacing with sensors electrically connected with said electronic 10 circuitry for allowing user selection of control signals communicated to the computer; at least two of said sensors each capable of providing at least three readable states of varied conductance, at least two states of said at least three readable states dependant upon depressive 15 pressure applied to the variable-conductance sensors through depression of an associated button;

wherein the improvement comprises:

20 said electronic circuitry including means for reading said at least three readable states and for producing a distinct control signal for each state of said at least two states, the distinct control signals are

25 screen scrolling control signals used to determine scrolling speed rates, whereby a pointer controlled by said mouse is not required to be located on a scrolling elevator showing on a monitor.

2. An improved mouse according to claim 1 wherein said at least two of said sensors are analog sensors each including pressure-sensitive variable-conductance 30 material.

3. An improved mouse of the type having surface-tracking for pointing control, said mouse further of the type including a housing, electronic circuitry within said 35 housing and coupled to communication means for

communicating control signals from said electronic circuitry to a computer, a plurality of finger depressible buttons exposed on said housing and interfacing with sensors electrically connected with said electronic circuitry for allowing user selection of control signals communicated to a computer;

wherein the improvements comprise:

at least two of said sensors are analog sensors each including pressure-sensitive variable-conductance material to provide at least three readable states of varied conductance, said states dependant upon depressive pressure applied to the pressure-sensitive variable-conductance material;

15 said electronic circuitry including means for reading  
said at least three readable states and for producing a  
distinct control signal for each of at least two states of  
said at least three readable states, whereby said mouse  
outputs the distinct control signal regardless of a  
pointer position on a display.

20        4. An improved mouse according to claim 3 wherein the distinct control signals are screen scrolling control signals, and are used to determine scrolling speed rates.

25        5. An improved mouse of the type having surface-  
tracking for pointing control on a display, said mouse  
further of the type including a housing, electrical power  
source means for powering electronic circuitry, said  
electronic circuitry located within said housing, said  
30      electronic circuitry coupled to communication means for  
communicating control signals from said electronic  
circuitry to a computer, a plurality of finger depressible  
buttons exposed on said housing and interfacing with  
sensors electrically connected with said electronic  
35      circuitry for allowing user selection of control signals  
communicated to the computer;

wherein the improvements comprise:

at least two of said sensors are analog sensors including pressure-sensitive variable-conductance material, each said analog sensor structured to provide at least three readable states of varied conductance, said states dependant upon depressive pressure applied individually to the sensors of said at least two sensors;

5 said electronic circuitry including means for reading said at least three readable states and for producing scroll control signals representative of each of at least two states of said at least three readable states;

10 a first sensor of said at least two sensors, said first sensor associated with a first button of said finger depressible buttons, said first button variably depressible to allow applying varied depressive pressure to said first sensor, said first sensor connected to said electronic circuitry, said electronic circuitry for reading said at least three readable states and producing at least two different scroll-up values as said scroll 15 control signals;

20 a second sensor of said at least two sensors, said second sensor associated with a second button of said finger depressible buttons, said second button variably depressible to allow applying varied depressive pressure to said second sensor, said second sensor connected to said electronic circuitry, said electronic circuitry for reading said at least three readable states and producing at least two different scroll-down values as said scroll 25 control signals, whereby a pointer controlled by said mouse is not required to be located on a scrolling 30 elevator showing on a display.

6. An improved mouse in accordance with claim 5 wherein the first and second sensors include elastomeric dome-caps including the pressure-sensitive 35 variable-conductance material carried by and within said dome-caps.

7. An improved mouse in accordance with claim 5 wherein the first and second sensors are each packaged sensors each comprising:

- 5 a package housing;
- an electrically conductive concavo-convex resilient disk within the package housing;
- two normally electrically separated proximal circuit elements at least in-part within the package housing;
- 10 a depressible button retained to the package housing and positioned such that depression of the button depresses said disk;
- said pressure-sensitive variable-conductance material positioned within the package housing to receive
- 15 compressive pressure thereagainst from and upon depression of said disk, said pressure-sensitive variable-conductance material further positioned to define at least a portion of an electrically conductive path defined between said proximal circuit elements upon depression of said disk,
- 20 whereby said electrically conductive path is of varied electrical conductivity dependant upon an amount of compression applied to said pressure-sensitive variable-conductance material.

8. An improved method of controlling window scrolling using a mouse having surface-tracking for controlling a pointer,

- wherein the improvement comprises:
- depressing, by the user, an analog scroll control button, located on said mouse, for controlling variable
- 30 screen scrolling rate by way of selecting the pressure applied to said analog scroll control button.

9. An improved method of controlling window scrolling of a computer using a mouse according to claim 8

35 wherein the method further comprises

increasing pressure applied to said analog scroll control button for increasing scrolling rate, and said pointer controlled by said mouse is not required to be located on a scrolling elevator showing on a monitor.

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10. An improved method of controlling window scrolling of a computer using a mouse according to claim 9 wherein the method further comprises

10 decreasing pressure applied to said analog scroll control button for decreasing scrolling rate.

11. A method of manufacturing an improved mouse including the known prior art steps of: molding a housing; installing surface-tracking pointer control means for pointing control; installing electronic circuitry within said housing; connecting communication means to said electronic circuitry for communicating from said mouse to a computer; installing a plurality of finger depressible buttons positioned for bearing on sensors electrically connected with said electronic circuitry; said electronic circuitry for reading a plurality of said sensors as sensors having only two readable values; and

20 further including the novel combined steps of:  
25 installing pressure-sensitive variable-conductance analog sensors positioned to be activated by depression of at least some buttons of said finger depressible buttons, said pressure-sensitive variable-conductance analog sensors structured to provide at least three readable values, said values dependant upon depressive pressure applied to said pressure-sensitive variable-conductance analog sensors;

30 installing circuitry for reading an immediate value of said at least three readable values of the pressure-sensitive variable-conductance analog sensors, 35 and for communicating data representative of the immediate value from said mouse to a computer,

whereby said mouse is manufactured for communicating data representative of the depressive pressure applied to said pressure-sensitive variable-conductance analog sensors regardless of the position of a pointer controlled by said mouse.

5 12. A mouse for use with software for navigating network addresses, said mouse comprising:

10 a housing, said housing supporting means for allowing user control of a pointer by moving said housing relative to an adjacent surface, means for communicating a first command signal to software, said first command signal activating display of information of a previously visited network address, said activating occurring without a requirement of said pointer 15 having to be located on a back button shown on a display.

13. A mouse according to claim 12 wherein the software navigates Internet addresses.

14. A mouse according to claim 12 wherein said information of a previously visited network address is 20 displayed on a display.

15. A mouse according to claim 12, wherein said means for communicating a first command signal to software includes a user depressible surface located on said 25 housing.

16. A mouse according to claim 13 further including means for communicating a second command signal to software, said second command signal activating display of information of a previously visited network address, said 30 activating occurring without a requirement of said pointer having to be located on a forward button shown on a display.

17. A mouse according to claim 16, wherein said means for communicating a second command signal to software includes a user depressible surface located on said housing.

5       18. An improved computer mouse of the type including a housing, electronic circuitry located within said housing, surface-tracking type pointer control means coupled to said electronic circuitry for allowing user control of a pointer on a computer monitor, said 10 electronic circuitry coupled to communication means for communicating output control signals from said electronic circuitry to a computer, a plurality of finger depressible buttons exposed on said housing and interfacing with sensors electrically connected with said electronic 15 circuitry for allowing user selection of output control signals communicated to a computer;

      wherein the improvement comprises:

      at least one of said buttons being a back button, depression of said back button causes reception of a back 20 control signal by network browsing software initiating said software to display imagery of a previously viewed network address, said network browsing software recognizing said back control signal without a requirement of the pointer being located on the software back button 25 displayed on the monitor.

19. An improved computer mouse according to claim 18 further including at least one of said buttons being a forward button, depression of said forward button causes reception of a forward control signal by network browsing 30 software initiating said software to display imagery of a previously viewed network address, said network browsing software recognizing said forward control signal without a requirement of the pointer being located on the software forward button displayed on the monitor.

20. An improved method of using a mouse, said mouse having surface-tracking pointer control means for describing a pointer position on a display, and user activatable buttons,

5 wherein the improved use of said mouse includes the step of pressing and releasing one of the buttons to send a back signal to network navigating software for initiating said 10 software to display imagery of a previously visited network address and without a requirement of the pointer being located on a software back button shown on the display.

15 21. An improved method of using a mouse according to claim 20 further including a step of pressing and releasing one of the buttons to send a forward signal, without a requirement of the pointer being located on a 20 software forward button shown on the display.

22. An improved method of browsing or navigating a 25 network using a computer mouse, said mouse having surface-tracking cursor control means for describing a cursor position on a display, and user depressible buttons,

wherein the improved method includes the step of depressing one of the buttons to send a signal, regardless 25 of the cursor position on the display, to network browsing or navigating software for commanding display of imagery of a previously visited address.

30 23. An improved method of browsing or navigating a network according to claim 22 further including a step of depressing one of the buttons to send a signal, regardless of the cursor position on the display, to network browsing or navigating software for commanding display of imagery of a most recent previously visited address.

24. A mouse for use with a computer and operating software for navigating network addresses, said mouse comprising:

5 a housing, said housing supporting means for allowing user control of a pointer shown on a display, said means for allowing user control of a pointer using surface-tracking when said mouse is moved over an adjacent surface by the user, and

10 means for communicating a first command signal to software, said first command signal activating display of information of a previously visited network address, said activating of display of information of a previously visited network address occurring without a requirement of said pointer having to be located on a back button shown

15 on the display.

25. A mouse according to claim 24 wherein the software navigates Internet addresses.

26. A mouse according to claim 24, wherein said means for communicating a first command signal to software includes a user depressible surface located on said housing.

27. A mouse according to claim 26 further including means for communicating a second command signal to software, said second command signal activating display of information of a previously visited Forward network address, said activating of display of information of a previously visited network address occurring without a requirement of said pointer having to be located on a Forward button shown on a display.

30 28. A mouse according to claim 27, wherein said means for communicating a second command signal to

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software includes a user deppressible surface located on said housing.

29. An improved method of using a mouse, said mouse  
5 having surface-tracking pointer control means for  
describing a pointer position on a display, and said mouse  
having user actuatable buttons,

wherein the improved use of said mouse includes the  
steps of:

10 a) moving said mouse over an adjacent surface for  
causing said pointer to be moved over imagery of a  
currently visited network address shown on said display;

15 b) actuating a first button on said mouse for  
initiating network navigating software to cause imagery of  
a previously visited network address to be shown on said  
display, said actuating of said first button for  
initiating said signal is not required to occur with said  
pointer being located over a back button shown on said  
display; and

20 c) actuating a second button on said mouse for  
initiating said network navigating software to cause  
imagery of another previously visited network address to  
be shown on said display, said actuating of said second  
button is not required to occur with said pointer being  
25 located over a button shown on said display.

30. An improved method of using a mouse according to  
claim 29 wherein said second button is actuated to cause  
imagery of a previously visited Forward network address to  
be shown on said display.